Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR)

Request for a scientific opinion on

scientific aspects of the existing and proposed definitions relating to products of nanoscience and nanotechnologies

1. BACKGROUND

Nanotechnologies are enabling technologies manipulating matter at the atomic scale and exploiting new properties and functionalities for new applications that may bring benefits to the whole society. Industry is increasingly using nanotechnology in sectors such as healthcare (targeted drug delivery, regenerative medicine, diagnostics), electronics, cosmetics, textiles, food, information technology, seed production, pesticides, and the environmental protection. The EU Strategy and the Action Plan for Nanotechnology define the EU approach and actions in nanosciences and nanotechnologies and 3.5 billion euros in the 7th Framework Programme for Research and Technological development in 2007-2013 is allocated in these fields. Some nanotechnology applications are already being marketed and citizen's trust and acceptance are essential for their further development and market uptake of new applications.

The communication between different disciplines of nanosciences and nanotechnologies and between various actors and operators as well as ordinary citizen call for clear and scientifically coherent terminologies, reflecting also the risk assessment needs.

For the moment a multitude of definitions related to nanosciences and nanotechnologies exist and are under development. In 2004, the UK Royal Society and the Royal Academy of Engineering defined the key terms for nanoscience, nanotechnologies and nanomaterials in their report and the British Standardisation Institute adopted the first nomenclature for the definitions relating to products of nanoscience and nanotechnologies shortly after that.

These definitions are being applied and further modified in different international organisations (such as ISO/CEN, OECD) and individual countries as well as amongst various actors such as e.g. academia, business associations. There are various approaches and viewpoints on the key concepts and further on definitions may be related to different aims, regulatory, funding, standardisation, testing etc. The need for consistent recognised definitions and terminology is widely shared and work is in progress at international level in that respect.

The Commission participates in the on-going dialogue at international level, with a view to establishing a framework of shared principles for the safe, sustainable, responsible and socially acceptable development and use of nanotechnologies in large variety of applications such as chemicals, food, pharmaceuticals, medical devices etc. The SCENIHR is requested to provide a scientific review on definitions and base concepts in the area of nanotechnologies. The SCENIHR opinion on the subject will help Commission services to contribute within the appropriate fora to establish scientifically sound terminology for nanoscience and nanotechnologies.

2. TERMS OF REFERENCE

The SCENIHR is asked

1. *To define a conceptual framework to assess the proposed definitions relating to nanoscience, nanotechnologies and products of nanotechnologies;*
2. *To make, on the basis of the framework, a scientific review of the strengths and weaknesses of existing and proposed definitions relating to nanosciences, nanotechnologies and products of nanotechnologies including those pertaining to risk assessment, taking also into account the growing importance of active nanosystems and the various needs of different users for defining the key concept and terms.*
3. *To identify a minimum set of essential criteria to be referred to when developing definitions relating to products of nanoscience and nanotechnologies or seeking to improve them. A short justification should accompany each criterion as well as the set itself.*

3. Deadlines

June 2007.